I claim:

1. A stream computer, said stream computer comprising:

a plurality of interconnected functional units, each of said functional units responsive to a data stream containing data to be operated on by one or more of said functional units;

digital logic cooperatively associated with one of said functional units for comparing said data stream presented to said one of said functional units with a debug stream;

reporting logic associated with said digital logic for reporting the occurrence of matches between said data stream and said debug stream.

2. A stream computer as described in claim 1 wherein said digital logic extracts similarities between said data stream and said debug stream to generate a viewpoint.

3. A stream computer as described in claim 2 wherein said digital logic generates said viewpoint without interrupting said data stream.

4. A stream computer as described in claim 1 wherein said digital logic extracts similarities between said data stream and said debug stream to induce a breakpoint.

5. A stream computer as described in claim 4 wherein said digital logic extracts similarities between said data stream and said debug stream to induce said breakpoint in response to a breakpoint number arriving at said digital logic.

6. A stream computer as described in claim 4 wherein said digital logic generates said breakpoint and interrupts said data stream passing through said digital logic.

7. A stream computer as described in claim 4 wherein said digital logic generates

said breakpoint and allows said data stream to pass through.

8. A stream computer as described in claim 1 wherein said at least one of said plurality of interconnected functional units, said digital logic, and said reporting logic are integrated on a single substrate.

9. A stream computer as described in claim 1 wherein said reporting logic are compatible with a graphical user interface, said graphical user interface identifying said functional units, and inputs and outputs of said functional units.

10. A stream computer as described in claim 1 wherein one or more of said functional units are reconfigured to become part of said digital logic.

11. A stream computer as described in claim 1 wherein said digital logic further comprises arithmetic logic units (ALU) and memory functions, said functions obtained by allocating some functional units to perform said ALU and memory functions.

12. A stream computer, said stream computer comprising:

a first plurality of interconnected functional units, said functional units responsive to a data stream containing data and tokens to be operated on by one or more of said first plurality of interconnected functional units;

a second plurality of said interconnected functional units allocated for comparing said data stream, and internal streams within said stream computer, with a debug stream to generate debug signals;

reporting logic responsive to said debug signals for reporting the occurrence of matches between said data stream and said debug stream compatible with human perception.

13. A stream computer as described in claim 12 wherein said second plurality of interconnected functional units extracts similarities between said data stream and said debug stream to generate a viewpoint.

14. A stream computer as described in claim 13 wherein said second plurality of interconnected functional units generates said viewpoint without interrupting said data stream.

15. A stream computer as described in claim 12 wherein said second plurality of interconnected functional units extracts similarities between said data stream and said debug stream to induce a breakpoint.

16. A stream computer as described in claim 15 wherein said second plurality of interconnected functional units extracts similarities between said data stream and said debug stream to induce said breakpoint in response to a breakpoint number.

17. A stream computer as described in claim 15 wherein said second plurality of interconnected functional units generates said breakpoint and interrupts said data stream.

18. A stream computer as described in claim 15 wherein said second plurality of interconnected functional units generates said breakpoint and allows said data stream to pass through.

19. A stream computer as described in claim 12 wherein at least one of said plurality of interconnected functional units, and said reporting logic are integrated on a single substrate.

20. A stream computer as described in claim 12 wherein said reporting logic is compatible with a graphical user interface, said graphical user interface identifying said functional units, and inputs and outputs of said functional units.

21. A method for operating a stream computer, said method comprising the steps of:

programming a first plurality of interconnected functional units forming said stream computer to compute in accordance with data and token contained in a data stream;

programming a second plurality of said interconnected functional units forming said stream computer to compare said data stream , and internal streams within said stream computer, with a debug stream;

reporting the occurrence of matches between said data stream and said debug stream using symbols compatible with human perception.

22. A method as described in claim 21 further including the step of extracting similarities between said data stream and said debug stream to generate a viewpoint, using said second plurality of interconnected functional units.

23. A method as described in claim 22 wherein said step of extracting similarities by said second plurality of interconnected functional units generates said viewpoint without interrupting said data stream.

24. A method as described in claim 21 wherein said step of extracting similarities by said second plurality of interconnected functional units between said data stream and said debug stream induces a breakpoint.

25. A method as described in claim 24 wherein said step of extracting similarities by said second plurality of interconnected functional units also induces said breakpoint in response to a breakpoint number.

26. A method as described in claim 24 wherein inducing said breakpoint interrupts said data stream.

27.A method as described in claim 24 wherein inducing said breakpoint allows said data stream to pass through.

28. A method as described in claim 21 computer wherein said reporting step generates information compatible with a graphical user interface, said graphical user interface identifying said functional units, and inputs and outputs of said functional units.